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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference KAPRO PCT-03	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/IL03/00294	International filing date (day/month/year) 08/04/2003	Priority date (day/month/year) 22/04/2002
International Patent Classification (IPC) or national classification and IPC G01C25/00		
<p>Applicant KAPRO INDUSTRIES LTD</p> <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 1 sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application 		

Date of submission of the demand 27/10/2003	Date of completion of this report 06.02.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Hoekstra, F Telephone No. +31 70 340 3638



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International application No. PCT/IL03/00294

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):
Description, pages:

1-3 as originally filed

Claims, No.:

1,2 as received on 27/10/2003 with letter of 26/10/2003

Drawings, sheets:

1/2,2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

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the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1,2
 No: Claims

Inventive step (IS) Yes: Claims 1,2
 No: Claims

Industrial applicability (IA) Yes: Claims 1,2
 No: Claims

**2. Citations and explanations
see separate sheet**

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Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US-A-3 456 354 (WRIGHT DONALD E) 22 July 1969 (1969-07-22)
D2: US-A-3 871 110 (GUTOWSKI ANTONI PAWEL ET AL) 18 March 1975
(1975-03-18)

Novelty:

1 Document D1 which is considered to represent the most relevant state of the art, discloses a spirit level as in the preamble of **claim 1**. The web 10 (D1, col. 3, l. 65 - col. 4, l. 57, and figs. 1-6), has a recess (16) with a pair of opposite vial supports (these are the sides of the recess 16) each having a lower lug and an upper lug (the stepped recess portions 20) for snugly receiving a cylindrical vial (22) lengthwise and diameterwise. A pair of retainer clips (securement members 24) for sliding displacement along said level vial each have a pair of diametrically opposite notches (apertures 32 and 34) for sliding mounting on a vial support.

Claim 1 differs from the known prior art of D1 in that its characterizing part mentions a widened tip on each lug and a horseshoe-shaped recess on each retainer clip, for snap fitting the retainer clips to the vial supports; therefore the subject-matter of this claim is novel in the sense of Art. 33(2) PCT.

2 Document D2 discloses another spirit level with a means for securing support of the vial to the web: here, the retainer clips are slightly flexible and have a shoulder portion which snap fits over the end of the vial with a straight slot 36 snugly receiving part of the web 14, but this is not in the form of a widened tip and a horseshoe. (Cf. D2, col. 2, ll. 1-63, and figs. 1-6).

Inventive step:

3.1 The problem which **claim 1** seeks to solve over the prior art of D1 lies with the

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friction lock between the member 24 and the web 10: with use, the friction lock will be insufficient and the vial will disengage from the web. D1 provides no hint to the solution of this problem, while asserting that the friction lock suffices.

3.2 There is a snap-fit solution in D2: however, in D2, as already mentioned, the snap-fit is between the flexible retainer clip and the vial, not between the retainer clip and the web. Although the person skilled in the art seeking to solve the problem mentioned with D1 would already know, or would understand from D2, that a snap-fit is more secure than a friction fit, application of the solution of D2 to the spirit level of D1 would not lead to claim 1: instead, the person skilled in the art would combine D2 and D1 in such a way as to make the members 24 of D1 flexible and provide them with a shoulder for snap-fitting over the vial. D2 has in a sense already solved the friction problem of D1 but in a different manner: the person skilled in the art would see no need to provide the side walls of the web of D2 with a shape for mating with the notches of the sleeves.

Therefore, the subject-matter of **claim 1** involves an inventive step in the sense of Art. 33(3) PCT.

Industrial applicability:

4 The subject-matter of **claim 1** meets the requirements of Art. 33(4) PCT as to industrial applicability.

Further matters:

5 Claim 2 is not allowed according to Rule 6.2(a) PCT.

Claims:

1. A hand tool with spirit level functionality comprising:
 - (a) a web having a recess with a pair of opposite vial supports each having a lower lug and an upper lug for snugly receiving a cylindrical level vial lengthwise and diameterwise, and
 - (b) a pair of annular retainer clips for sliding displacement along said level vial and each having a pair of diametrically opposite notches for sliding mounting on a vial support,
characterized in that
each lug of said pair of vial supports terminates in a widened tip, and
each notch of said pair of retainer clips terminates in a horseshoe shaped recess
such that a retainer clip snap fits onto a vial support for securely mounting said level vial in said web.
2. A hand tool with spirit level functionality substantially as described hereinabove and as shown in the attached drawings.